

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Appellants:	AGARWALLS, et al.	Patent Application	
Application No.:	10/666,093	Group Art Unit:	2157
Filed:	September 19, 2003	Examiner:	El Chanti, Hussein A.

For: SYSTEM AND METHOD FOR PROVIDING SECURE ACCESS TO A REMOTE  
DESKTOP ACROSS FIREWALLS IN AN INTERACTIVE GRID ENVIRONMENT

APPEAL BRIEF

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I. Real Party in Interest

The assignee of the present application is Hewlett-Packard Development Company,  
L.P.

## II. Related Appeals and Interferences

There are no related appeals or interferences known to the Appellants.

### III. Status of Claims

Claims 1-27 are pending. Claims 1-27 are rejected. This Appeal involves Claims 1-27.

#### IV. Status of Amendments

All proposed amendments have been entered. An amendment subsequent to the Final Action has not been filed.

## V. Summary of Claimed Subject Matter

Independent Claims 1, 12 and 20 pertain to various embodiments for providing secure access to a remote desktop across firewalls in an interactive grid environment.

Independent Claim 1 recites, “An interactive grid computing system 200, 300.” This embodiment is described at least at page 9 line 21 to page 10 line 22; page 10 line 24 to page 15 line 10; Figure 2; and Figure 3. “An interactive grid computing service provider 440” is described at least at page 16 lines 1-6; and Figure 4. “A resource 444 that said interactive grid computing service provider 440 reserves for a client 210, 450 based on a request from said client 210, 450 for an interactive session for a service that said resource 444 is enabled to provide” is described at least at page 16 line 8 to page 17 line 2; Figure 2; and Figure 4. “A first firewall 448 coupled to said resource 444 for protecting said resource 444,” is described at least at page 17 lines 4-14; Figure 4; and Figure 5. “A remote display server 442 coupled to said first firewall 448 for providing secure access to said resource 444 over a secure connection 550 and for providing interactive graphical data associated with said resource 444, wherein said client 210, 450 is enabled to communicate directly with said resource 444 over said secure connection 550 during said interactive session” is described at least at page 17 line 15 to page 19 line 11; page 10 lines 21-22; Figure 2; Figure 4; and Figure 5.

Independent Claim 12 recites, “A method 600 for interactively accessing a remote desktop across a secure network.” This embodiment is described at least at page 21 line 16 to page 22 line 12; and Figure 6. “Receiving (601) a request for a resource 444 provided by a grid computing application service provider 440 wherein said resource 44 is protected by a first firewall 448” is described at least at step 601, Figure 6; and page 21 lines 16-22.

“Initiating (603) a remote display server 442 for providing graphical data associated with said resource 444 to a remote display viewer 512 protected by a second firewall 458” is described at least at step 603, Figure 6; and page 21 lines 22-25. “Establishing (605) a secure socket layer (SSL) connection 550 between said remote display viewer 512 and said remote display server 442, wherein said remote display viewer 512 is enabled to communicate directly with said remote display server 442” is described at least at step 605, Figure 6; and page 21 line 25 to page 22 line 3. “Communicating (607) graphical data between said remote display viewer 512 and said remote display server 442 directly through said SSL connection 550” is described at least at step 607, Figure 6; and page 21 lines 3-5.

Independent Claim 20 recites, “An interactive grid computer system 200, 300 comprising a processor coupled to a bus and a memory coupled to said bus and comprising instructions that when executed implement a method 600 for accessing a remote desktop across firewalls 448, 458.” This embodiment is described at least at page 9 line 21 to page 10 line 22; page 10 line 24 to page 15 line 10; page 21 line 16 to page 22 line 12; Figures 2-4; and Figure 6. “Receiving (601) a request for a resource 444 provided by a grid computing application service provider 440 wherein said resource 444 is protected by a first firewall 448” is described at least at step 601, Figure 6; page 21 lines 16-22; page 16 line 8 to page 17 line 2; page 17 lines 4-14; Figure 2; Figure 4; Figure 5; and Figure 6. “Initiating (603) a remote display server 442 for providing graphical data associated with said resource 444 to a remote display viewer 512 protected by a second firewall 458” is described at least at step 603, Figure 6; page 21 lines 22-25; and Figures 4 and 5. “Establishing (605) a secure socket layer (SSL) connection 550 between said remote display viewer 512 and said remote display server 442, wherein said remote display viewer 512 is enabled to communicate directly with said remote display server 442” is described at least at step 605, Figure 6; page 21 line 25 to



page 22 line 3; page 17 line 15 to page 19 line 11; and Figures 4 and 5. “Communicating (607) graphical data between said remote display viewer 512 and said remote display server 442 directly through said SSL connection 550” is described at least at step 607, Figure 6; page 21 lines 3-5; page 10 lines 21-22; Figure 2; Figure 4; and Figure 5.

## VI. Grounds of Rejection to Be Reviewed on Appeal

1. Claims 1, 2, 4-6, 8-10, 12-13, 15-21 and 23-27 are rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 6,026,430 by Butman, hereinafter referred to as “Butman.”
2. Claims 3, 7, 11, 14 and 22 are rejected under 35 U.S.C. §103(a) as being unpatentable over Butman in view of U.S. Patent No. 7,127,745, hereinafter referred to as “Herse.”

## VII. Argument

### 1. Whether Claims 1, 2, 4-6, 8-10, 12-13, 15-21 and 23-27 are Anticipated Under 35 U.S.C. §102(b) by Butman.

Appellants have reviewed the cited art and respectfully submit that the embodiments as recited in Claims 1, 2, 4-6, 8-10, 12-13, 15-21 and 23-27 are not anticipated by Butman in view of the following rationale.

MPEP §2131 provides:

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.”

*Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). ... “The identical invention must be shown in as complete detail as is contained in the ... claim.” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). The elements must be arranged as required by the claim.

Independent Claim 1 recites,

An interactive grid computing system comprising:

an interactive grid computing service provider comprising:

a resource that said interactive grid computing service provider reserves for a client based on a request from said client for an interactive session for a service that said resource is enabled to provide;

a first firewall coupled to said resource for protecting said resource; and

a remote display server coupled to said first firewall for providing secure access to said resource over a secure connection and for providing interactive graphical data associated with said resource, wherein said client is enabled to communicate directly with said resource over said secure connection during said interactive session (emphasis added).

#### A. Cited Art does not show Each and Every Element as set Forth in the Claim

Referring to the abstract, among other places, Appellants understand Butman to teach a registration based system that uses domain and client communication servers to selectively direct information. Appellants understand Butman to refer to his “sites” as “clients.” For example, Butman states at Col. 13 line 18, “Client C1 might be an investment bank located in Pennsylvania, USA...” where PA in Fig. 1A appears to stand for Pennsylvania and therefore

C1 in Fig. 1A would represent a site for Pennsylvania. Referring to Col. 15 lines 56-61 and Col. 12 lines 46-50, Appellants understand Butman to teach that information can be selectively communicated internally between more than one client side communications server associated with the same client (site) or externally between client side communications servers associated with different clients (sites). For the sake of expediting prosecution of the instant application, Appellants shall demonstrate why neither Butman's internal communications embodiment nor Butman's external communications embodiment teach, describe or suggest the embodiments recited by the independent Claims 1, 12 and 20.

With regards to Butman's internal communications embodiment, Appellants understand Butman to teach at Figure 1A and Col. 12 lines 28-30 that each of Butman's client side communication servers "... is located behind the firewall F, of its respective corporate site" (emphasis added). Therefore, Appellants understand Butman to teach that a firewall associated with a corporate site would not apply to communications between client side communications servers that are associated with the same corporate site. For example, assume that one of Butman's client side communications servers requests an object from one of Butman's client side communications servers where both servers are associated with the same corporate site. In one example for this situation, the firewall that the servers are behind, or any other entities of Butman's that are behind the site's firewall, would not be coupled to the requested object for protecting the object and for providing secure access to the object. Therefore, Appellants do not understand Butman's internal communications embodiment to teach, describe or suggest "a first firewall coupled to said resource for protecting said resource...a remote display server coupled to said first firewall for providing secure access to said resource," as recited by Claim 1. In another example, Butman's requested object would not be protected by a first firewall and one of Butman's client side servers, or any other

entities of Butman's that are behind the site's firewall, be protected by a second firewall. Therefore, Appellants do not understand Butman's internal communications embodiment to teach, describe or suggest "said resource is protected by a first firewall...a remote display viewer protected by a second firewall..." (emphasis added) as recited by independent Claims 12 and 20.

Butman states at Col. 12 line 67 to Col. 13 line 4, "...client side communication server C1 is able, by communicating directly only with domain server A1, to send information to any of the others in communication with domain communications server A1" (emphasis added). Further, Col. 16 lines 3-6 state, "Also in a preferred embodiment a client side communications server CSS for a given customer must use a domain communications server to communicate with other customers that are external to it" (emphasis added). Therefore, Appellants do not understand Butman's external communications embodiment to teach, describe or suggest "...communicate directly with said resource," (emphasis added) as recited by Claim 1 nor do Appellants understand Butman's external communications embodiment to teach, describe or suggest, "wherein said remote display viewer is enabled to communicate directly with said remote display server; and communicating graphical data between said remote display viewer and said remote display server directly through said SSL connection," (emphasis added) as recited by independent Claims 12 and 20.

For at least the reasons provided herein, Appellants submit that independent Claims 1, 12 and 20 are not anticipated by Butman as the Rejection fails to establish a prima facie case for anticipation of independent Claims 1, 12 and 20. As such, Appellants submit that independent Claims 1, 12 and 20 are in condition for allowance. Claims 2-11 depend on Claim 1. Claims 13-19 depend on Claim 12. Claims 21-27 depend on Claim 20. Hence, it is

respectfully submitted that the dependent Claims are patentable over Butman for the reasons discussed above, and are in condition for allowance by virtue of their dependence upon a respective allowable base claim.

2. Whether Claims 3, 7, 11, 14 and 22 are Unpatentable Under 35 U.S.C. §103(a) by Butman in view of Herse.

Appellants have reviewed the cited art and respectfully submit that the embodiments as recited in Claims 3, 7, 11, 14 and 22 are neither taught nor rendered obvious by Butman or Herse, alone or in combination, in view of the following rationale.

“As reiterated by the Supreme Court in KSR, the framework for the objective analysis for determining obviousness under 35 U.S.C. 103 is stated in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966). Obviousness is a question of law based on underlying factual inquiries” including “[a]scertaining the differences between the claimed invention and the prior art” (MPEP 2141(II)). “In determining the differences between the prior art and the claims, the question under 35 U.S.C. 103 is not whether the differences themselves would have been obvious, but whether the claimed invention as a whole would have been obvious” (emphasis in original; MPEP 2141.02(I)). Appellant notes that “[t]he prior art reference (or references when combined) need not teach or suggest all the claim limitations, however, Office personnel must explain why the difference(s) between the prior art and the claimed invention would have been obvious to one of ordinary skill in the art” (emphasis added; MPEP 2141(III)).

Applicants respectfully submit that “[i]t is improper to combine references where the references teach away from their combination” (emphasis added; MPEP 2145(X)(D)(2); *In re*

*Grasselli*, 713 F.2d 731, 743, 218 USPQ 769, 779 (Fed. Cir. 1983)). Applicants respectfully note that “[a] prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention” (emphasis in original; MPEP 2141.02(VI); *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984)). Applicants respectfully submit that there is no motivation to combine the teachings of Butman and Herse, because Butman teaches away from the suggested modification.

As already stated, Appellants understand independent Claims 1, 12 and 20 to be patentable over Butman. Appellants respectfully submit that Herse does not remedy the deficiency in Butman in that Herse does not teach, describe or suggest the embodiments recited by independent Claims 1, 12 and 20. In fact, the Office Action does not assert that Herse teaches, describes or suggests the embodiments recited by independent Claims 1, 12 and 20. Appellants respectfully agree.

Moreover, Appellants respectfully submit that Butman teaches away from the embodiments recited by independent Claims 1, 12 and 20. **Specifically, by disclosing that** each of Butman’s client side communication servers “... is located behind the firewall F, of its respective corporate site” (emphasis added) and that “a given customer must use a domain communications server to communicate with other customers that are external to it,” (emphasis added) Butman teaches away from the embodiments recited by independent Claims 1, 12 and 20 and therefore Appellants understand independent Claims 1, 12 and 20 to be patentable over the combination of Butman and Herse.

Claims 1, 7 and 11 depend on independent Claim 1. Claim 14 depends on independent Claim 12. Claim 22 depends on independent Claim 20. These dependent claims include all of the features of their respective independent claims. Therefore, these dependent claims should be patentable for at least the reasons that their respective independent claims should be patentable.



Conclusion

Appellants believe that pending Claims 1, 2, 4-6, 10, 12-13, 15-21 and 23-27 are not anticipated by Butman. Appellants believe that pending Claims 3, 7, 11, 14 and 22 are patentable over the combination of Butman and Herse. As such, Appellants submit that Claims 1-27 are patentable over the cited references.

Appellants respectfully request that the rejection of Claims 1-27 be reversed. The Appellants wish to encourage the Examiner or a member of the Board of Patent Appeals to telephone the Appellants' undersigned representative if it is felt that a telephone conference could expedite prosecution.

Respectfully submitted,  
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Dated: 4/21/2008

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VIII. Appendix - Clean Copy of Claims on Appeal

1. An interactive grid computing system comprising:
  - an interactive grid computing service provider comprising:
    - a resource that said interactive grid computing service provider reserves for a client based on a request from said client for an interactive session for a service that said resource is enabled to provide;
    - a first firewall coupled to said resource for protecting said resource; and
    - a remote display server coupled to said first firewall for providing secure access to said resource over a secure connection and for providing interactive graphical data associated with said resource, wherein said client is enabled to communicate directly with said resource over said secure connection during said interactive session.
2. The interactive grid computing system as described in Claim 1 further comprising said client coupled to said interactive grid computing service provider, said client comprising:
  - a second firewall protecting said client; and
  - a remote display resource for communicating with said remote display server through said secure connection to access said interactive graphical data provided by said remote display server.
3. The system as described in Claim 2 wherein said remote display resource is a virtual network computing (VNC) viewer modified for secure access and for viewing a graphical desktop display associated with said resource.

4. The system as described in Claim 2 wherein said remote display resource provides a socksified SSL connection.
5. The system as described in Claim 1 wherein said interactive graphical data provided by said remote display server is encrypted.
6. The system as described in Claim 2 wherein said second firewall is hosting a SOCKS proxy server.
7. The system as described in Claim 1 wherein said first firewall is hosting a VNC proxy server.
8. The system as described in Claim 2 wherein said secure connection through a socks tunnel is used to tunnel said interactive graphical data through said second firewall.
9. The system as described in Claim 2 further comprising a software agent associated with said resource wherein if said resource is requested by said client, said software agent initiates interactive communication between said remote display server and said remote display resource.
10. The system as described in Claim 1 wherein said interactive graphical data is a graphical desktop display associated with said resource.

11. The system as described in Claim 1 wherein said first firewall comprises a VNC proxy server.

12. A method for interactively accessing a remote desktop across a secure network comprising:

receiving a request for a resource provided by a grid computing application service provider wherein said resource is protected by a first firewall;

initiating a remote display server for providing graphical data associated with said resource to a remote display viewer protected by a second firewall;

establishing a secure socket layer (SSL) connection between said remote display viewer and said remote display server, wherein said remote display viewer is enabled to communicate directly with said remote display server; and

communicating graphical data between said remote display viewer and said remote display server directly through said SSL connection.

13. The method as described in Claim 12 further comprising tunneling said graphical data through a socks proxy server that comprises said second firewall.

14. The method as described in Claim 12 further comprising hosting a VNC proxy server at said first firewall.

15. The method as described in Claim 12 further comprising receiving said request at said grid computing application service provider from a web browser.

16. The method as described in Claim 12 further comprising encrypting said graphical data.

17. The method as described in Claim 12 further comprising using a socks tunnel to tunnel said graphical data through said second firewall.

18. The method as described in Claim 12 further comprising authenticating a user associated with said remote display viewer.

19. The method as described in Claim 18 further comprising authenticating said user at an Internet based grid service access point.

20. An interactive grid computer system comprising a processor coupled to a bus and a memory coupled to said bus and comprising instructions that when executed implement a method for accessing a remote desktop across firewalls comprising:  
receiving a request for a resource provided by a grid computing application service provider wherein said resource is protected by a first firewall;

initiating a remote display server for providing graphical data associated with said resource to a remote display viewer protected by a second firewall;

establishing a secure socket layer (SSL) connection between said remote display viewer and said remote display server, wherein said remote display viewer is enabled to communicate directly with said remote display server; and

communicating graphical data between said remote display viewer and said remote display server directly through said SSL connection.

21. The interactive grid computer system as described in Claim 20 wherein said method further comprises tunneling said graphical data through a socks proxy server that comprises said second firewall.

22. The interactive grid computer system as described in Claim 20 wherein said method further comprises hosting a VNC server at said first firewall.

23. The interactive grid computer system as described in Claim 20 wherein said method further comprises receiving said request at said grid computing application service provider from an application.

24. The interactive grid computer system as described in Claim 20 wherein said method further comprises encrypting said graphical data.

25. The interactive grid computer system as described in Claim 20 wherein said method further comprises using a socks tunnel to tunnel said graphical data through said second firewall.

26. The interactive grid computer system as described in Claim 20 wherein said method further comprises authenticating a user associated with said remote display viewer.

27. The interactive grid computer system as described in Claim 20 wherein said method further comprises authenticating said user at an Internet based grid service access point.

IX. Evidence Appendix

No evidence is herein appended.

X. Related Proceedings Appendix

No related proceedings.